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=> s gymnema sylvestre and diabet###

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09/048966

L1 QUE GYMNEMA SYLVESTRIS AND DIABET####

=> file medline biosis caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

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FULL ESTIMATED COST

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=> s l1

L2 54 L1

=> dup rem l2

PROCESSING COMPLETED FOR L2

L3 39 DUP REM L2 (15 DUPLICATES REMOVED)

=> d bib ab 1-

L3 ANSWER 7 OF 39 CAPLUS COPYRIGHT 1999 ACS
 AN 1998:70055 CAPLUS
 DN 128:127186
 TI Marketing of health foods containing gymnemic acid
 AU Ueno, Manabu; Miyamoto, Susumu
 CS Dep. Prod. Dev., Dainippon Meiji Seito Co., Ltd., Japan
 SO Shokuhin Kogyo (1997), 40(22), 57-61
 CODEN: SKGYAW; ISSN: 0559-8990
 PB Korin
 DT Journal; General Review
 LA Japanese
 AB A review with 16 refs. on therapeutic effects of gymnemic acid on digestive tract and on **diabetes** control.

L3 ANSWER 8 OF 39 CAPLUS COPYRIGHT 1999 ACS
 AN 1997:303968 CAPLUS
 DN 126:347186
 TI Anti-**diabetic** effects of the extracts from the leaves of **Gymnema sylvestre**. Inhibitory effect of gymnemic acids on glucose absorption in the small intestine
 AU Yoshioka, Shin-ichi; Imoto, Toshiaki; Miyoshi, Michio; Kasagi, Takeshi; Kawahara, Ryuzo; Hiji, Yasutake
 CS Department of Neuropsychiatry, Faculty of Medicine, Tottori University, Yonago, 683, Japan
 SO Wakan Iyakugaku Zasshi (1996), 13(4), 300-303
 CODEN: WIZAEL; ISSN: 1340-6302
 PB Wakan Iyaku Gakkai
 DT Journal
 LA Japanese
 AB Gymnemic acids (I) extd. from leaf of *G. sylvestre* inhibit glucose absorption in the intestine assocd. with Na-dependent transport system. I also inhibit the intestinal absorption of oleic acid and histidine and inhibition of glucose carrier by I suggested. Also inhibition of intestinal absorption of sugar with I analogs was studied.

L3 ANSWER 12 OF 39 CAPLUS COPYRIGHT 1999 ACS
AN 1996:758719 CAPLUS
DN 126:165963
TI Effect of **Gymnema sylvestre** on **diabetes**
AU Ueno, Gaku
CS Dai-Nippon Meiji Sugar Co., Ltd., Tokyo, 103, Japan
SO Gekkan Fudo Kemikaru (1996), 12(12), 61-67
CODEN: GFKEEX; ISSN: 0911-2286
PB Shokuhin Kagaku Shinbunsha
DT Journal; General Review
LA Japanese
AB A review with 17 refs., on sweetness suppressive and sugar
absorption suppressive effects of gymnemic acid from *G. sylvestre*
(GS), effect of GS on **diabetes** mellitus, and application
to antiobese *Gymnema* gum.

L3 ANSWER 19 OF 39 BIOSIS COPYRIGHT 1999 BIOSIS
AN 1993:413229 BIOSIS
DN PREV199396078954

TI Studies on the effect of *Gymnema sylvestre* on
diabetics.

AU Balasubramaniam, K. (1); Arasaratnam, Vasanthi (1); Nageswaran, A.;
Anushiyanthan, S.; Mugunthan, N.

CS (1) Dep. Biochem., Fac. Med., Univ. Jaffna, Kokuvil
SO Journal of the National Science Council of Sri Lanka, (1992) Vol.
20, No. 1, pp. 81-89.
ISSN: 0300-9254.

DT Article

LA English

AB *Gymnema sylvestre* (T. Sirukurincha) is used in
indigeneous medicine for control glycosuria. In this work the
hypoglycaemic effect of *G. sylvestre* was studied in 16 normal
subjects and in 43 mild **diabetics**. Normal subjects and
diabetics were between 43 and 68 years of age. All the
subjects were administered with *G. Sylvestre* leaf powder (10 g/day)
for 7 days. Oral glucose tolerance test was performed on all
subjects before the administration of *G. sylvestre* leaf powder.
Normal subjects had the zero and 2 hour blood glucose levels of 80.8
(\pm 11.9) mg dl-1 and 72.6 (\pm 14.4) mg dl-1 respectively, while 43
mild **diabetics** had 152.7 (\pm 28.5) mg dl-1 and 240.0 (\pm
22.5) mg dl-1. From 7th day, 36 mild **diabetics** were
treated with tolbutamide for one week as prescribed by their
doctors, while the remaining 7 **diabetics** continued the
intake of *G. sylvestre* leaf powder for another two weeks. Fasting
blood glucose levels of normals, 36 **diabetics** on *G.*
sylvestre and on tolbutamide, and 7 **diabetics** who
continued with *G. sylvestre* leaf powder, were measured on zero, and
7th days; on zero, 7th and 14th days and on zero, 11th and 21st days
respectively. Fasting blood glucose levels on the 7th day for
normals and mild **diabetics** were 71.6 (\pm 12.9) mg dl-1 and
136.3 (\pm 20.3) mg dl-1 respectively. The mean fasting blood glucose
levels of both normals and **diabetics** had significantly
decreased 7 days after the administration of *G. sylvestre* leaf
powder. Fasting blood glucose levels of the 36 **diabetics**
on tolbutamide for 7 days (on 14th day of commencement of the
experiment) was 131.1 \pm (\pm 15.1) mg dl-1. Mean fasting blood
glucose levels of 36 **diabetics** on 7th day (136.3 \pm 20.3
mg dl-1) and 14th day (131.1 \pm 15.1 mg dl-1) showed no significant
difference. Fasting blood glucose levels of 7 **diabetics**
who took *G. sylvestre* leaf powder for 3 weeks showed improved
glucose tolerance on the 21st day, (101.2 \pm 31.9 mg dl-1). This
indicates that *G. sylvestre* leaf powder has probably had a
hypoglycaemic effect comparable to tolbutamide. Serum
triacylglycerol, free fatty acids and cholesterol levels of the
normals were unaffected by the intake of *G. sylvestre* leaf powder
for one week, whereas that of **diabetics** had significantly
decreased. Serum ascorbic acid and iron levels of normals and
diabetics were elevated significantly due to the intake of
G. sylvestre leaf powder. Intake of *G. sylvestre* had not affected
the excretion of creatine in normals whereas in **diabetics**
it had decreased the excretion of creatine. SGOT and SGPT levels of
normals nad **diabetics**, before and after the administration
of *G. sylvestre*, were not significantly different.

L3 ANSWER 24 OF 39 MEDLINE
 AN 91080576 MEDLINE
 DN 91080576
 TI Antidiabetic effect of a leaf extract from **Gymnema sylvestre** in non-insulin-dependent **diabetes mellitus** patients.
 AU Baskaran K; Kizar Ahamath B; Radha Shanmugasundaram K; Shanmugasundaram E R
 CS Department of Biochemistry, Postgraduate Institute of Basic Medical Sciences Madras, India..
 SO JOURNAL OF ETHNOPHARMACOLOGY, (1990 Oct) 30 (3) 295-300.
 Journal code: K8T. ISSN: 0378-8741.
 CY Switzerland
 DT (CLINICAL TRIAL)
 Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 199104
 AB The effectiveness of GS4, an extract from the leaves of **Gymnema sylvestre**, in controlling hyperglycaemia was investigated in 22 Type 2 **diabetic** patients on conventional oral anti-hyperglycaemic agents. GS4 (400 mg/day) was administered for 18-20 months as a supplement to the conventional oral drugs. During GS4 supplementation, the patients showed a significant reduction in blood glucose, glycosylated haemoglobin and glycosylated plasma proteins, and conventional drug dosage could be decreased. Five of the 22 **diabetic** patients were able to discontinue their conventional drug and maintain their blood glucose homeostasis with GS4 alone. These data suggest that the beta cells may be regenerated/repared in Type 2 **diabetic** patients on GS4 supplementation. This is supported by the appearance of raised insulin levels in the serum of patients after GS4 supplementation.

DUPLICATE 5

L3 ANSWER 25 OF 39 MEDLINE
AN 91080575 MEDLINE
DN 91080575
TI Use of **Gymnema sylvestre** leaf extract in the
control of blood glucose in insulin-dependent **diabetes**
mellitus.
AU Shanmugasundaram E R; Rajeswari G; Baskaran K; Rajesh Kumar B R;
Radha Shanmugasundaram K; Kizar Ahmath B
CS Department of Biochemistry, University of Madras, India..
SO JOURNAL OF ETHNOPHARMACOLOGY, (1990 Oct) 30 (3) 281-94.
Journal code: K8T. ISSN: 0378-8741.
CY Switzerland
DT (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199104
AB GS4, a water-soluble extract of the leaves of **Gymnema**
sylvestre, was administered (400 mg/day) to 27 patients with
insulin-dependent **diabetes** mellitus (IDDM) on insulin
therapy. Insulin requirements came down together with fasting blood
glucose and glycosylated haemoglobin (HbA1c) and glycosylated plasma
protein levels. While serum lipids returned to near normal levels
with GS4 therapy, glycosylated haemoglobin and glycosylated plasma
protein levels remained higher than controls. IDDM patients on
insulin therapy only showed no significant reduction in serum
lipids, HbA1c or glycosylated plasma proteins when followed up after
10-12 months. GS4 therapy appears to enhance endogenous insulin,
possibly by regeneration/revitalisation of the residual beta cells
in insulin-dependent **diabetes** mellitus.

DUPLICATE 6

L3 ANSWER 27 OF 39 MEDLINE

DUPLICATE 8

AN 90329934 MEDLINE

DN 90329934

TI Effect of *Gymnema sylvestre*, R.Br. on glucose homeostasis in rats.

AU Okabayashi Y; Tani S; Fujisawa T; Koide M; Hasegawa H; Nakamura T; Fujii M; Otsuki M

CS Second Department of Internal Medicine, Kobe University School of Medicine, Japan.

SO DIABETES RESEARCH AND CLINICAL PRACTICE, (1990 May-Jun) 9 (2) 143-8. Journal code: EBI. ISSN: 0168-8227.

CY Netherlands

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 199011

AB Effect of *Gymnema sylvestre*, R.Br. (G. sylvestre; GS4) on glucose homeostasis was studied in rats. In the first set of experiments, the acute effect of GS4 was examined in both non-**diabetic** and streptozocin (30 mg/kg)-induced mildly **diabetic** rats. Administration of 1 g/kg body weight of GS4 to 18-h fasted non-**diabetic** rats significantly attenuated the serum glucose response to oral administration of 1 g/kg glucose. The immunoreactive insulin (IRI) response in GS4-administered rats was lower, but not significantly, than that in control rats. In mildly **diabetic** rats, a 60 min increment in serum glucose concentrations was significantly reduced by GS4 administration. No IRI response was observed in these **diabetic** rats irrespective of GS4 administration. In the second set of experiments, the chronic effect of GS4 was examined in mildly **diabetic** rats. Two weeks after the induction of **diabetes**, the rats were divided into two groups that had similar impairment of glucose tolerance assessed by an oral glucose loading test. The rats were fed for 32-35 days with either a control diet or a diet supplemented with GS4. After 4 weeks, GS4 showed a tendency to reduce the serum glucose concentrations in the fed state and to improve the glucose tolerance. Gain in body weight, food intake, pancreas weight and the pancreatic contents of IRI, protein, amylase and trypsinogen were unaltered in the GS4-treated group compared with the control. These results suggest the usefulness of G. sylvestre in the treatment of certain classes of non-insulin-dependent **diabetes** mellitus.

L3 ANSWER 31 OF 39 BIOSIS COPYRIGHT 1999 BIOSIS
AN 1987:27008 BIOSIS
DN BA83:16942
TI IMPROVEMENT OF GLUCOSE TOLERANCE BY **GYMNEMA-**
SYLVESTRE RUBUS-ULMIFOLIUS AND MOMORDICA-CHARANTIA.
AU AHMAD M M; NAHID; QURESHI J A
CS DEP. BIOL. SCI., QUAID-I-AZAM UNIV., ISLAMABAD.
SO PAK J ZOOL, (1986) 18 (1), 89-98.
CODEN: PJZOAN. ISSN: 0030-9923.

FS BA; OLD
LA English

AB An investigation of the hypoglycaemic effect of dry powdered leaves of **Gymnema sylvestre**, *Rubus ulmifolius* and juice of *Momordica charantia* has been made in normoglycaemic, hyperglycaemic and alloxan **diabetic** rabbits. Leaves of *G. sylvestre* and *R. ulmifolius* (1 gm/kg body wt) significantly reduced the blood glucose of rabbits loaded with 2 gm/kg glucose. A decrease in blood glucose concentration was also obtained in alloxan **diabetic** rabbits. *G. sylvestre* appeared to show a more potent hypoglycaemic effect than *R. ulmifolius*. Fresh juice of *Momordica charantia* (5 ml/kg body wt) significantly reduced the blood glucose concentration in animals previously loaded with glucose (2 gm/kg). A significant reduction in blood glucose concentration was also noted in alloxan **diabetic** rabbits. The powdered leaves of *G. sylvestre*, *R. ulmifolius* and karela juice significantly lowered the elevated glycosylated haemoglobin of alloxan **diabetic** rabbits. It is suggested that these plant materials encourage the utilisation of glucose.

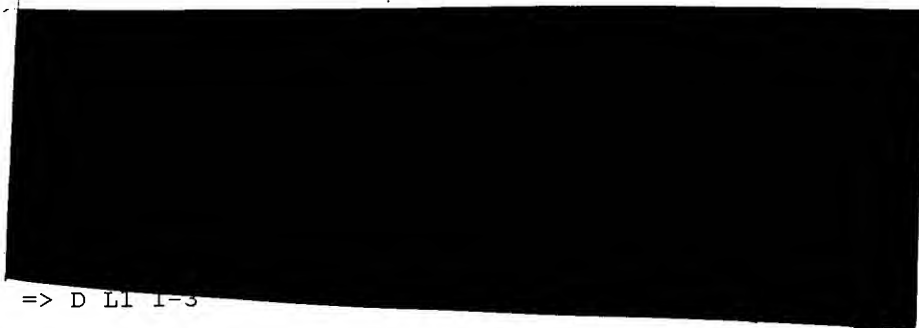
L3 ANSWER 35 OF 39 MEDLINE
 AN 83243174 MEDLINE
 DN 83243174
 TI Enzyme changes and glucose utilisation in **diabetic**
 rabbits: the effect of **Gymnema sylvestre**, R.Br.
 AU Shanmugasundaram K R; Panneerselvam C; Samudram P; Shanmugasundaram
 E R
 SO JOURNAL OF ETHNOPHARMACOLOGY, (1983 Mar) 7 (2) 205-34.
 Journal code: K8T. ISSN: 0378-8741.
 CY Switzerland
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 198310
 AB The administration of the dried leaf powder of **Gymnema**
sylvestre regulates the blood sugar levels in alloxan
diabetic rabbits. G. sylvestre therapy not only produced
 blood glucose homeostasis but also increased the activities of the
 enzymes affording the utilisation of glucose by insulin dependent
 pathways: it controlled phosphorylase levels, gluconeogenic enzymes
 and sorbitol dehydrogenase. The uptake and incorporation of [14C]
 glucose into the glycogen and protein are increased in the liver,
 kidney and muscle in G. sylvestre administered **diabetic**
 animals when compared to the untreated **diabetic** animals.
 Pathological changes initiated in the liver during the hyperglycemic
 phase are reversed by controlling hyperglycemia by G. sylvestre. G.
 sylvestre, a herb used for the control of **diabetes**
 mellitus in several parts of India, appears to correct the metabolic
 derangements in **diabetic** rabbit liver, kidney and muscle.

DUPLICATE 10

L3 ANSWER 38 OF 39 BIOSIS COPYRIGHT 1999 BIOSIS
AN 1979:266990 BIOSIS
DN BA68:69494
TI STUDIES ON THE ANTI **DIABETIC** EFFECTS OF **GYMNEMA-**
SYLVESTRE EXTRACT.
AU JAVA A H; SHEIKH M A; MUZAFFAR N A
CS FAC. PHARM., UNIV. PUNJAB, LAHORE, PAK.
SO PAK J SCI RES, (1978 (RECD 1979)) 30, 65-68.
CODEN: PJSRAV. ISSN: 0552-9050.
FS BA; OLD
LA English
AB The G. sylvestre extract was prepared by using different solvents
and its antidiabetic effect was studied in vitro and in vivo. The
extract was dissolved in 1% glucose and titrated against Benedict
solution, then given orally to 4 rabbits. The blood sugar percentage
was measured.

24. A nutrition supplement for improving glucose metabolism, comprising:
- Gymnema sylvestre***; and
 - lipoic acid.

=> D HIS



048966

=> D L1 1-3

1. 5,484,593, Jan. 16, 1996, Diet composition comprising *Gymnema inodrum* and a method for suppressing the absorption of saccharides; Kazuo Iwasaki, et al., 424/195.1; 514/866, 909 [IMAGE AVAILABLE]

2. 5,472,694, Dec. 5, 1995, Method for manufacturing tea by treating the leaves of *Cyclobalanopsis stenophylla*; Han Y. Chae, et al., 424/198.1; 426/597, 615, 648 [IMAGE AVAILABLE]

3. **4,912,089**, Mar. 27, 1990, Cariostatic materials and foods, and method for preventing dental caries; Yasutake Hiji, 514/25; 426/804; 514/835 [IMAGE AVAILABLE]

=> S ISLET? OR PANCREA?

1425 ISLET?

10132 PANCREA?

L8 10543 ISLET? OR PANCREA?

=> S L2 AND L8

L9 3 L2 AND L8

=> S L2(P)L8

L10 1 L2(P)L8

=> D

09/048966

1. 5,730,988, Mar. 24, 1998, Nutritional supplements for improving glucose metabolism; Rick W. Womack, 424/195.1, 617, 646; 426/74; 514/440, 556 [IMAGE AVAILABLE]

=> D KWIC

US PAT NO: 5,730,988 [IMAGE AVAILABLE]

L10: 1 of 1

DETDESC:

DETD(16)

Two water soluble extracts, GS3 and GS4, obtained from the leaves of ***Gymnema sylvestre***, a woody climber growing in the tropical

Best Available Copy
and Southern India, may be used to bring about blood
through increased serum insulin levels. It is
Gymnema sylvestre appears to enhance endogenous
regeneration/revitalization of residual beta cells
increases that are responsible for insulin
supplementation with **Gymnema sylvestre** has been
significant reduction in blood glucose, glycosylated
glycosylated plasma proteins, thereby allowing

conventional drug dosages to be decreased. Both juvenile and adult onset
diabetes appear to respond to the action of **Gymnema sylvestre**.

DETDESC:

DETD(37)

15,000 IU
Niacinamide (B-3) 50 mg
Vitamin (B-1) 6 mg
Vitamin (B-6) 6 mg
Selenium 80 mcg
Zinc 50 mg
Pancreatin 100 mg
Papain 75 mg
Amylase 100 mg
Betaine (HCL) 75 mg
Lipase 150 mg
Huckleberry 150 mg
Ginseng 275 mg
Phase II
Gymnema sylvestre (extract) 750 mg
Lipoic acid 100 mg
Cat's claw 500 mg
Pullunan 350 mg
L-Methionine 200 mg
Pancreatin 100 mg
Lipase 100 mg
Amylase 100 mg
Dandelion root 300 mg
Folic Acid 400 mcg
Copper (chelated) 2 mg.

=> S L2 AND L8

L11 3 L2 AND L8

=> S L10 AND L2

L12 1 L10 AND L2

=> D KWIC

US PAT NO: 5,730,988 [IMAGE AVAILABLE]

L12: 1 of 1

ABSTRACT:

The . . . supplement, comprises a source of vanadate and a source of
chromium. A second nutritional supplement, or "Phase II" supplement,
comprises **Gymnema sylvestre** and lipoic acid. The nutritional
supplements are alternated to prevent accumulation of the nutrients in
the body and also to.

SUMMARY:

BSUM(13)

The . . . metabolism comprising a first supplement comprising a source of vanadate and a source of chromium and a second supplement comprising **Gymnema sylvestre** and lipoic acid. **Gymnema sylvestre** is provided as an extract from **Gymnema sylvestre** leaves. The preferred source of vanadate is vanadyl sulfate and the preferred source of chromium is selected from the group. . .

SUMMARY:

BSUM(14)

Another . . . first supplement comprising a source of vanadate and a second supplement comprising a component selected from the group consisting of **Gymnema sylvestre**, lipoic acid and combinations thereof, wherein the second supplement is substantially free from vanadate. The first supplement preferably further comprises. . .

SUMMARY:

BSUM(15)

Yet . . . the first nutritional supplement comprises a source of vanadate and a source of chromium, and the second nutritional supplement comprises **Gymnema sylvestre** and lipoic acid. In an alternative embodiment, the first nutritional supplement comprises **Gymnema sylvestre** and lipoic acid, and the second nutritional supplement comprises a source of vanadate and a source of chromium. The first. . .

DETDESC:

DETD(4)

In another aspect of the invention, an alternative nutritional supplement is provided with comprises a source of **gymnema sylvestre** and a source of lipoic acid. This alternative nutritional supplement also produces insulin-like effects the prevent, reduce or eliminate the. . .

DETDESC:

DETD(5)

In . . . supplement comprising a source of vanadate and a source of chromium and a "Phase II" supplement comprising a source of **gymnema sylvestre** and a source of lipoic acid. The plurality of nutritional supplements are alternated to prevent accumulation of the nutrients in. . .

DETDESC:

DETD(16)

Two water soluble extracts, GS3 and GS4, obtained from the leaves of **Gymnema sylvestre**, a woody climber growing in the tropical forests of central and southern India, may be used to bring about blood glucose homeostasis through increased serum insulin levels. It is believed that **Gymnema sylvestre** appears to enhance endogenous insulin, possibly by regeneration/revitalization of residual beta cells in the endocrine **pancreas** that are responsible for insulin production. Daily supplementation with **Gymnema sylvestre** has been shown to cause a significant reduction in blood glucose, glycosylated hemoglobin and glycosylated plasma proteins, thereby allowing conventional drug dosages to be decreased. Both juvenile and adult onset diabetes appear to respond to the action of **Gymnema sylvestre**.

DETDESC:

DETD(18)

The . . . that the first nutritional supplement include L-carnitine. The present invention also provides a second nutritional supplement for diabetics which combines **Gymnema sylvestre** and lipoic acid.

DETDESC:

DETD(37)

15,000 IU		
Niacinamide (B-3)	50	mg
Vitamin (B-1)	6	mg
Vitamin (B-6)	6	mg
Selenium	80	mcg
Zinc	50	mg
Pancreatin	100	mg
Papain	75	mg
Amylase	100	mg
Betaine (HCL)	75	mg
Lipase	150	mg
Huckleberry	150	mg
Ginseng	275	mg
Phase II		
Gymnema sylvestre (extract)	750	mg
Lipoic acid	100	mg
Cat's claw	500	mg
Pullunan	350	mg
L-Methionine	200	mg
Pancreatin	100	mg
Lipase	100	mg
Amylase	100	mg
Dandelion root	300	mg
Folic Acid	400	mcg
Copper (chelated)	2	mg.

CLAIMS:

CLMS(1)

What . . .

system, comprising:

a first supplement comprising a source of vanadate and a source of chromium; and a second supplement comprising **Gymnema sylvestre** and lipoic acid.

CLAIMS:

CLMS(6)

6. The nutritional system of claim 1, wherein the **Gymnema sylvestre** is provided as an extract from **Gymnema sylvestre**

ABSTRACT:

The invention provides nutritional supplements and methods for administering nutritional supplements that improve glucose metabolism, particularly for persons with diabetes. A first nutritional supplement, or "Phase I" supplement, comprises a source of vanadate and a source of chromium. A second nutritional supplement, or "Phase II" supplement, comprises *Gymnema sylvestre* and lipoic acid. The nutritional supplements are alternated to prevent accumulation of the nutrients in the body and also to overcome desensitization that can occur over long periods of continuous use. While the nutritional supplements may be alternated at almost any frequency and taken over almost any duration, it is preferred that each Phase be taken for between about 2 and about 6 months, most preferably about 3 months or about 90 days, before alternating back to the other Phase.

=> S L2 AND L6

L7 1 L2 AND L6

=> D KWIC

ABSTRACT:

The . . . supplement, comprises a source of vanadate and a source of chromium. A second nutritional supplement, or "Phase II" supplement, comprises *Gymnema sylvestre* and lipoic acid. The nutritional supplements are alternated to prevent accumulation of the nutrients in the body and also to. . .

SUMMARY:

BSUM(13)

The . . . metabolism, comprising a first supplement comprising a source of vanadate and a source of chromium and a second supplement comprising *Gymnema sylvestre* and lipoic acid. *Gymnema sylvestre* is provided as an extract from *Gymnema sylvestre* leaves. The preferred source of vanadate is vanadyl sulfate and the preferred source of chromium is selected from the group. . .

SUMMARY:

BSUM(14)

Another . . . first supplement comprising a source of vanadate and a second supplement comprising a component selected from the group consisting of *Gymnema sylvestre*, lipoic acid and combinations thereof, wherein the second supplement is substantially free from vanadate. The first supplement preferably further comprises. . .

SUMMARY:

BSUM(15)

Yet . . . the first nutritional supplement comprises a source of

vanadate and a source of chromium, and the second nutritional supplement comprises **Gymnema sylvestre** and lipoic acid. In an alternative embodiment, the first nutritional supplement comprises **Gymnema sylvestre** and lipoic acid, and the second nutritional supplement comprises a source of vanadate and a source of chromium. The first. . .

DETDESC:

DETD(4)

In another aspect of the invention, an alternative nutritional supplement is provided with comprises a source of **gymnema sylvestre** and a source of lipoic acid. This alternative nutritional supplement also produces insulin-like effects the prevent, reduce or eliminate the. . .

DETDESC:

DETD(5)

In . . . supplement comprising a source of vanadate and a source of chromium and a "Phase II" supplement comprising a source of **gymnema sylvestre** and a source of lipoic acid. The plurality of nutritional supplements are alternated to prevent accumulation of the nutrients in. . .

DETDESC:

DETD(16)

Two water soluble extracts, GS3 and GS4, obtained from the leaves of **Gymnema sylvestre**, a woody climber growing in the tropical forests of central and southern India, may be used to bring about blood glucose homeostasis through increased serum insulin levels. It is believed that **Gymnema sylvestre** appears to enhance endogenous insulin, possibly by regeneration/revitalization of residual **beta** cells in the endocrine pancreas that are responsible for insulin production. Daily supplementation with **Gymnema sylvestre** has been shown to cause a significant reduction in blood glucose, glycosylated hemoglobin and glycosylated plasma proteins, thereby allowing conventional drug dosages to be decreased. Both juvenile and adult onset diabetes appear to respond to the action of **Gymnema sylvestre**.

DETDESC:

DETD(18)

The . . . that the first nutritional supplement include L-carnitine. The present invention also provides a second nutritional supplement for diabetics which combines **Gymnema sylvestre** and lipoic acid.

DETDESC:

DETD(37)

75	mg	
Amylase	100	mg
Betaine (HCL)	75	mg
Lipase	150	mg
Huckleberry	150	mg
Ginseng	275	mg
Phase II		
Gymnema sylvestre (extract)	750	mg
Lipoic acid	100	mg

Cat's claw	500	mg
• Pullunan	100	mg
L-Methionine	200	mg
Pancreatin	100.	.

CLAIMS:

CLMS (1)

What . . .

system, comprising:

a first supplement comprising a source of vanadate and a source of chromium; and a second supplement comprising **Gymnema sylvestre** and lipoic acid.

CLAIMS:

CLMS (6)

6. The nutritional system of claim 1, wherein the **Gymnema sylvestre** is provided as an extract from **Gymnema sylvestre** leaves.

CLAIMS:

CLMS (7)

7. . . .

administering a first supplement comprising a source of vanadate; and then

(b) administering a second supplement comprising an ingredient selected from **gymnema sylvestre**, lipoic acid or combinations thereof.

CLAIMS:

CLMS (10)

10. The method of claim 7, wherein the first nutritional supplement comprises **Gymnema sylvestre** and lipoic acid, and the second nutritional supplement comprises a source of vanadate and a source of chromium.

CLAIMS:

CLMS (15)

15. . . .

a first supplement comprising a source of vanadate; and

a second supplement comprising an ingredient selected from the group consisting of **gymnema sylvestre**, lipoic acid and combinations thereof.

CLAIMS:

CLMS (17)

17. A method of administering nutritional supplements, comprised of:

(a) administering a first supplement comprising an ingredient selected from **gymnema sylvestre**, lipoic acid and combinations thereof; and then

(b) administering a second supplement comprising a source of vanadate.

CLAIMS:

61-5023

Jan. 10, 1986
LOW-CALORIC DRINK AND FOOD

L14: 3 of 3

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ABSTRACT:

PURPOSE: A low-caloric food and drink containing **Gymnema sylvestre** (GS) as an enteric absorption inhibitor of glucose, and effective for preventing obesity.

CONSTITUTION: A low-caloric drink and food containing **Gymnema sylvestre** (GS) (prepared by dipping dried leaves of a plant of the family Asclepiadaceae naturally growing in India, Africa and China in an aqueous solution at 60 degrees C. for 5hr, and adjusting the pH of the solution to 3, depositing and precipitating the solution) as an enteric absorption inhibitor of glucose. These are drink and food developed by stopping to take the blood sugar value as a standard, and directly measuring the absorption of glucose from the intestinal tracts.

EFFECT: The inhibitory effect of the GS on absorption of glucose prevents the obesity while avoiding the frustration for sweetness, etc., and the drink and food are low-caloric drink and food effective for patients with diabetes.

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